

ABSTRACT OF THE DISCLOSURE

An ion sensing circuit comprises a bridge sensing circuit and a differential amplifying circuit. The bridge sensing circuit detects the ion concentration of the solution in the operation mode of constant voltage and constant current. The differential amplifying circuit compares the output of the bridge sensing circuit and a floating reference voltage, thereby the delivered voltage to the bridge sensing circuit, such that the operation mode of constant voltage and constant current is formed accordingly. The main features of the disclosed circuit are that it grounds the reference electrode and floats the source terminal. The drawbacks of not being manufactured with integrated circuits by CMOS technology and low benefits when applied to sensor arrays are avoided by the disclosed circuit.